REMARKS

Claims 1-9 and 11-30 are in the application for consideration.

Applicant's independent claims stand rejected over a combination of references which now includes U.S. Patent No. 5,403,779 to Joshi et al. Applicant disagrees and requests reconsideration.

Specifically, the Examiner asserts that Joshi et al. discloses a conducting material and a collimated sputter liner "wherein the conducting material physically contacts a semiconductor substrate." Apparently, the Examiner relies principally upon Table 2 and Fig. 8. However, Applicant finds nothing in Table 2 which would support the Examiner's conclusion, and Fig. 8 does not support the Examiner's conclusion that Applicant's claim-recited second conductive material "physically contacts a semiconductor substrate", as further argued below.

Joshi et al. clearly discloses one preferred method of depositing its contact opening liner as being collimated sputtering. However, this is everywhere taught within Joshi et al. as providing a conformal coating whereby both the sidewalls and bases of openings are coated to at least some degree. *See*, for example, col.6, lns.40-44 and col.8, lns.17-18, and Table 1. Accordingly, the teaching everywhere within the specification of Joshi et al. is for conformal coating, and the reference to Table 2 and text pertaining to Fig. 8 does not counter this conformal deposition.

With respect to Fig. 8, the Examiner will note that the top three openings, as well as the bottom/lower middle opening over the gate, clearly

show and disclose that their bases are covered with the collimated sputtered material, which is taught as including a refractory metal material. Accordingly, the two contacts to the opposing source/drain regions must likewise also be lined at their bases (meaning that the bases thereof have been deposited upon) with or by the recited "collimated sputter liner". Further pertinent to this, the Examiner's attention is directed to Fig. 3A, which depicts a "silicide junction" at the upper portion of the respective source/drain regions. The Examiner will note that the same silicide junction is shown in the Fig. 8 upon which the Examiner relies. Accordingly, the inherent teaching in Joshi et al. in Fig. 8 is that the refractory metal deposited onto the base of the contact opening by collimated sputtering is transformed into the depicted silicide.

Applicant's independent claims require that the second conductive material physically contact "the semiconductor material layer". However, the Joshi et al. Fig. 8 "conducting material" within the contact openings does not contact semiconductor material, but is rather spaced therefrom by the illustrated silicide junction material at the base of the contact openings. Such must constitute a portion of the collimated sputtered liner at the base of the contact openings at the interface thereof with the source/drain regions, as the center contact over the Fig. 8 gate is depicted as comprising collimated sputtered material at the base of that plug in the absence of silicide formation due to lack of silicon presence with which the refractory metal can react. Since collimated sputtering is taught by Joshi et al. in its

text as resulting in conformal deposition, and the base of the lower center contact shows refractory metal over the contact base, refractory metal must have inherently deposited over the base of the contact openings over the source/drain regions, and thereby reacted to form the depicted silicide. Joshi et al.'s Fig. 8 is consistent with the Joshi et al.'s text regarding degree of conformality in the disclosed collimated sputtering, and thereby the pertinent conducting material does not contact the semiconductor material which is exactly what Joshi et al. depicts, and which is contrary to Applicant's independent claims. (Further, Joshi et al.'s silicide cannot be considered as Applicant's claim-recited second conductive material due to limitations recited in Applicant's claims regarding such material which are not met by Joshi et al.'s silicide.)

For the foregoing reasons, the Joshi et al. reference does not teach Applicant's claim recited second conductive material as physically contacting the semiconductor material layer, rather as a minimum, spacing such therefrom using silicide.

The remaining relied upon Bronner et al., Lee et al., Lai et al. and Ahmad et al. references do not overcome this deficiency. Accordingly, each of the references is lacking in this regard. As each is so lacking, the combination of references does not encompass all of the limitations of Applicant's independent claims, and accordingly, the rejections thereof should be withdrawn. Action to that end is requested.

Applicant's depend dependent claims should be allowed as depending from allowable base claims, and for their own recited features which are neither shown nor suggested in the cited art. Action to that end is requested.

This application is believed to be in immediate condition for allowance, and action to that end is requested.

Respectfully submitted,

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